# Melvin Butte Forest Management Project

Silviculture Treatment Specifications and Implementation Guidelines

*Setting ID (stands) 06010505380011760, 06010505380011765, 06010505380011766, 06010505380011767 06010505380011769, 06010505380011770*

EA Unit #30

Stewardship Imp Units 16,17,18

Fuels Imp # TBD

10/29/2015

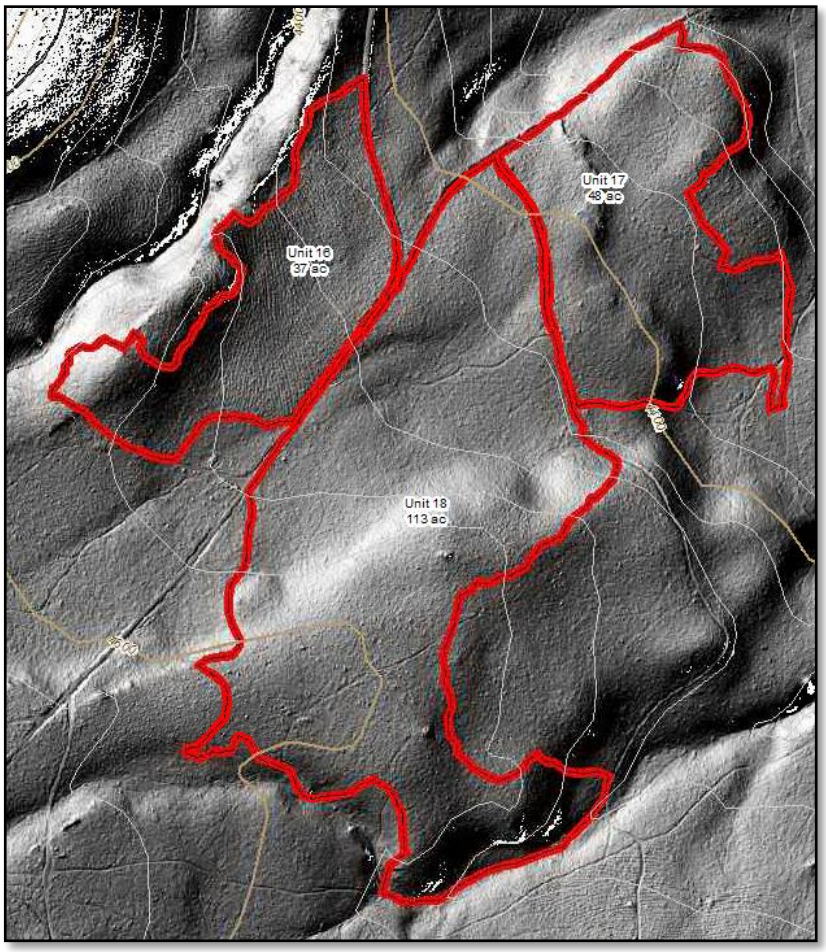
### *Management Allocations:*

LRMP: Front Country Seen/Unseen MA 18

NWFP: Matrix

EA Treatment Name: Thinning

Secondary treatments: Underburn (prescribed), pile burning, mastication, pruning




### *Site Description:*

Acres: Unit 16 (37ac), Unit 17 (48ac), Unit 18 (113ac)

Aspect: North to East (Unit 16, 18 with some southeast portions)

Slope: 0-30%

Minor inclusions of rocky outcroppings that contains vegetation

Plant association- mixed conifer/snowbrush-manzanita CWS1-12 and ponderosa pine/bitterbrush-manzanita/needlegrass CPS2-13 (Volland 1982).

### *Insect/Disease:*

The units contain low to high levels of dwarf mistletoe. Most often the infections are in the bottom ½ to 1/3$^{rd}$ of the crown. Mistletoe infections may be higher in those trees left from previous stand entry or where infections have spread from these to higher in the crowns of planted trees.

### *Past management-*

The stands had overstory removal with replanting of ponderosa pine occurring in rows. The past OSR removed ~60-100ft² basal area per acre (BA/acre) of ponderosa pine. The OSR appears to have been designed to remove levels of mistletoe in the stands. The stand was pre-commercially thinned ~20 years ago. Fire suppression of natural and/or human ignitions has occurred from early in the 20$^{th}$ century.

Replanting of ponderosa pine occurred on a regular spacing and in rows at approximately ~25x25ft spacing. Any grand fir (>12”dbh) that are present are randomly distributed across the units and occur at about 1-2 per acre. Spacing of trees within 20ft are not common and are likely the result of ingrowth or missed as part of the past pre-commercial thin.

### *Existing condition-*

**Table 1-Stand statistics derived from Lidar determined tree points.**

| Stewardship Imp Unit # | Acres | Avg Diameter (inches) | STD Dev Diam (inches) | Quadratic Mean Diameter (inches) | Quadratic Mean Diameter of all trees >21(inches) | BA/acres (0-4.9"dbh) | BA/acres (5-8.9"dbh) | BA/acres (9-20.9"dbh) | BA/acres (21+" dbh) | BA/acres total | TPA (0-4.9"dbh) | TPA (5-8.9"dbh) | TPA (9-20.9"dbh) | TPA (21+" dbh) | Total Number of trees/acres | Plant Association Group (PAG) | Plant code | Current calculated SDI | SDI of trees >21"dbh |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 37 | 6.1 | 2.0 | 6.4 | 27.6 | 9 | 62 | 17 | 0 | 89 | 115 | 251 | 29 | 0 | 395 | Mixed conifer dry | CWS1-12 | 194 | 0 |
| 17 | 48 | 7.5 | 3.5 | 8.3 | 22.1 | 5 | 39 | 62 | 2 | 108 | 69 | 144 | 77 | 1 | 290 | Ponderosa pine dry | CPS2-13 | 214 | 2 |
| 18 | 113 | 6.6 | 3.2 | 7.4 | 24.0 | 6 | 39 | 42 | 2 | 89 | 95 | 150 | 54 | 0 | 299 | Ponderosa pine dry | CPS2-13 | 184 | 2 |

Conifer heights – ~20-50ft; diameters- range from 0-20” except may be larger on white/grand fir; ages- range from 40-50 years old.

## Desired Future Condition-

Units with random distribution of trees indicated by variable spacing and densities. Residual trees with little to no dwarf mistletoe and/or highly mistletoe trees being isolated/confined and/or mistletoe allocated to bottom 1/3$^{rd}$ of crown to allow for future pruning.

## Goals of the mark

- Create, retain or induce trees in clumps or in a random distribution of stems. Induce variability into the stands.
- Reduce dwarf mistletoe abundance and potential spread within the unit. Remove where possible else isolate and confine dwarf mistletoe in the unit by spacing leave trees.
- Increase mean stem diameter within the stand by thinning from below

## Commercial Thin

Commercial thinning should strive for the following densities and distribution:

1) Retained basal areas should range across the unit from 10-100 sqft BA/ac- use table 2 for guide

**Table 2: Basal Area Variability**

| Percent area of Units | Basal Area (sqft) |
|---|---|
| 10% | 10-25 |
| 15% | 40 |
| 50% | 50 |
| 15% | 60 |
| 10% | 80-100 |

2) Break up the uniformity of the stands with areas with low basal areas ranges and high nearly unthinned areas. Co-locate future low density areas with current high mistletoe presence (primarily in the upper 1/3$^{rd}$ of crown).

3) When choosing whether to leave a mistletoe tree ensure its infection is NOT in the upper 1/3$^{rd}$ of the crown. Crowns may be pruned in a later step to further reduce spread within the stand.

4) Utilize any clumping that may be present. This may be difficult given the evenly spaced trees that are present. Generally, trees that are within 20ft should be considered for a future clump.

5) No marking of ponderosa pine trees >20.9 or those that indicate old growth. Use Van Pelt guide for this determination.

6) The units contain varying amounts of mistletoe- some areas have high abundance and some are low to none. When encountering mature ponderosa that may be >21”dbh and has DMR rating 3+ reduce understory around these to an area equal to twice the drip-line of the crown(s) of these overstory tree(s).
7) Ponderosa pine thinning will be generally from below unless thinning is done to “isolate and confine” mistletoe. Only choose a larger tree over a small one in order to create clumpy structure or reduce any dwarf mistletoe that may be present.
8) Mark all grand/white fir that are present. These are scattered within the unit and are about 1 tree per acre.

## Non-saw/biomass/ pre-commercial/chip thinning component (trees <9”dbh)

The non-saw/ pre-commercial/ biomass utilization prescription is recommended where the small trees to be cut are not saw log sized material. The objective is to promote horizontal and vertical diversification, future recruitment and replacement while still reducing ladder fuels and inter-tree competition.

Selection of Leave Trees- Retain conifers on a 20’ spacing.

Preparer: /s/ William Brendecke – 10/29/2015

Certified silviculturist:_____